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Attorney Docket No.: 40129/00901 (1549)

REMARKS

I. INTRODUCTION

Claims 1-8, 10, 12-18 and 20-26 remain pending in the present application. In view of the following remarks, it is respectfully submitted that all of the pending claims are allowable.

II. CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Claims 1, 3-8, 10, 13-18, 20 and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 6,462,805 to Wu et al. (“Wu”) in view of U.S. Patent 4,093,356 to Bigelow (“Bigelow”) and further in view of U.S. Patent 4,991,941 to Kalmanash (“Kalmanash”). (*See* 2/22/07 Office Action, pp. 2-6.)

Claim 1 recites “[a] device for displaying images comprising: a back light within the device for generating light and transmitting light from within the device toward an external surface thereof; a first circular X-polarizer having a first side adjacent to a first side of the back light; a liquid crystal display set to quarter-wave retardation having a first side adjacent to a second side of the first circular X-polarizer; a mirror having a first side adjacent to the first side of the liquid crystal display; and a second circular X-polarizer having a first side adjacent to a second side of the liquid crystal display.”

The Examiner admits that Wu and Bigelow, in combination, do not teach “a liquid crystal display set to quarter wave retardation,” as recited in claim 1. (*See* 2/2/07 Office Action, p. 4.) To address this deficiency, the Examiner argues that Kalmanash teaches “a liquid crystal display set to quarter wave retardation.” (*See id.*) As the Examiner states, Kalmanash provides a system for improving a display by increasing transmission and reducing surface reflections and glare. (*See id.*, col. 2, ll. 48-52.) To this end, Kalmanash describes a variable optic retarder 26 that

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includes two liquid crystal cells 28, 30, a fixed quarter wave retarder 34, and switching circuitry 32. (*See id.*, col. 8, ll. 31-34, 59-66; Fig. 5.) Power provided by an external source (e.g., a battery or a generator) is modulated by switching circuitry 32 to provide electricity to liquid crystal cells 28, 30 at a variable voltage, thereby varying the optical retardation imposed by liquid crystal cells 28, 30. (*See id.*, col. 8, l. 67 – col. 9, l. 4; Fig. 5.) Thus, rather than “a liquid crystal display *set to quarter-wave retardation*,” as recited in claim 1, Kalmanash describes a liquid crystal display with *variable* optical retardation. Accordingly, Applicants respectfully submit that Wu, Bigelow and Kalmanash, either alone or in combination, do not disclose “a liquid crystal display set to quarter-wave retardation,” as recited in claim 1.

Further, Applicants submit that even if, for the sake of argument only, Wu, Bigelow and Kalmanash, in combination, disclosed all the elements of claim 1 (i.e. a back light, a first circular X-polarizer, a liquid crystal display set to quarter-wave retardation, a mirror, and a second circular X-polarizer), the Examiner has used impermissible hindsight to conclude that it would have been obvious to one of skill at the art, at the time the invention was made, to combine those elements in the specific order and orientation recited by claim 1. The Examiner broadly states, on more than one occasion, that one of skill in the art would have been motivated to combine cited references in order to “improve[e] the light utilization efficiency.” (*See* 2/2/07 Office Action, p. 4, ll. 7-8, 12-12; p. 5, ll. 16-18; p. 6, ll. 1-2.) The Examiner provides no explanation as to why one of ordinary skill in the art would combine elements in the manner recited in claim 1; the Examiner has merely cherry-picked various elements of three separate inventions and claimed that it would have been obvious to one of skill in the art to combine them in the specific manner recited by claim 1, despite the fact that no practitioners in the field, save for Applicants, have done so.

Therefore, Applicants respectfully submit that the rejection of claim 1 over Wu, Bigelow and Kalmanash should be withdrawn. Because claims 3-8 depend from, and, therefore, include all of the limitations of claim 1, it is respectfully submitted that these claims are also allowable

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for at least the reasons stated above.

Claim 10 recites “[a] method for reducing glare in a display device comprising of: generating and transmitting light using a back light from within the display device toward an external surface thereof; circularly polarizing transmitted light using a first circular X-polarizer having a first side adjacent to a first side of the back light; circularly polarizing external incident light using a second circular X-polarizer having a first side adjacent to a second side of the first circular X-polarizer; reflecting external incident light using a mirror having a first side adjacent to the first side of the second circular X-polarizer; and absorbing reflected external incident light and transmitted light using the second circular X-polarizer; and generating images using a liquid crystal display set to quarter wave retardation interposed between the second circular X-polarizer and the first circular X-polarizer.”

For the reasons discussed above for claim 1, Applicants respectfully submit that the rejection of claim 10 over Wu, Bigelow and Kalmanash should be withdrawn. Because claims 13-18 depend from, and, therefore, include all of the limitations of claim 10, it is respectfully submitted that these claims are also allowable for at least the reasons stated above.

Claim 20 recites “[a] transflective display device to display images with reduced glare from external incident light comprising: a back light located on a bottom surface of the display device to provide internal light; an internal circular X-polarizer having a first side adjacent to a first side of the back light to circularly polarize internal light; a mirror to reflect external incident light; a liquid crystal display set to quarter wave retardation having a first side adjacent to a first side of the mirror and a second side of the internal circular X-polarizer to display images; and an external circular X-polarizer having a first side adjacent to a second side of the liquid crystal display to circularly polarize external incident light and absorb reflected external incident light and polarized internal light.”

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For the reasons discussed above for claim 1, Applicants respectfully submit that the rejection of claim 20 over Wu, Bigelow and Kalmanash should be withdrawn.

Claim 26 recites “[a] device for displaying images comprising: a back light within the device for generating light and transmitting light from within the device toward an external surface thereof; a first circular X-polarizer situated between the back light and the external surface; a liquid crystal display set to quarter wave retardation situated between the first circular X-polarizer and the external surface; a mirror adjacent to a first portion of the liquid crystal display, the first circular X-polarizer adjacent to a second portion of the liquid crystal display; and a second circular X-polarizer situated between the liquid crystal display and the external surface.”

For the reasons discussed above for claim 1, Applicants respectfully submit that the rejection of claim 26 over Wu, Bigelow and Kalmanash should be withdrawn.

Claims 2 and 12 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wu, Bigelow and Kalmanash as applied to claims 1, 3-8, 10, 13-18, 20 and 26 above, and further in view of U.S. Patent 6,378,117 to Minakuchi (“Minakuchi”). (See 2/2/07 Office Action, pp. 6-7.)

Minakuchi does not disclose “a liquid crystal display set to quarter wave retardation,” as recited in claims 1 and 10. As previously discussed with reference to claim 1, Wu, Bigelow and Kalmanash, either alone or in combination, do not disclose “a liquid crystal display set to quarter wave retardation.” Further, Applicants submit that, as for claims 1 and 10, the Examiner uses impermissible hindsight to assert that it would have been obvious to one of skill in the art, at the time the invention was made, to combine the teachings of Wu, Bigelow, Kalmanash and Minakuchi in this manner, and that such a combination is in fact non-obvious. Therefore, Applicants respectfully submit that the rejection of claims 2 and 12, which depend from claims 1 and 10, should be withdrawn for at least the reasons discussed above.

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Claims 21-23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wu, Bigelow and Kalmanash as applied to claims 1, 3-8, 10, 13-18, 20 and 26 above, and further in view of U.S. Patent 6,642,977 to Kotchick et al. ("Kotchick"). (See 2/2/07 Office Action, p. 7.)

Claim 21 recites "[a] computing device, comprising: a processor processing data; and a display device displaying the data, the display device including a back light situated within the display device for generating light and transmitting light from within the device toward an external surface thereof, the display device further including a first circular X-polarizer situated between the back light and the external surface, a liquid crystal display set to quarter wave retardation situated between the first circular X-polarizer and the external surface, a mirror adjacent to the liquid crystal display and a second circular X-polarizer situated between the liquid crystal display and the external surface."

Kotchick does not disclose "a liquid crystal display set to quarter wave retardation," as recited in claim 21. As previously discussed with reference to claim 1, Wu, Bigelow and Kalmanash, either alone or in combination, do not disclose "a liquid crystal display set to quarter wave retardation." Further, Applicants submit that, as for claim 1, the Examiner uses impermissible hindsight to assert that it would have been obvious to one of skill in the art, at the time the invention was made, to combine the teachings of Wu, Bigelow, Kalmanash and Kotchick in this manner, and that such a combination is in fact non-obvious. Therefore, Applicants respectfully submit that the rejection of claim 21 should be withdrawn for at least the reasons discussed above. Because claims 22-23 depend from, and, therefore, include all of the limitations of claim 21, it is respectfully submitted that these claims are also allowable for at least the reasons stated above.

Claims 24-25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wu, Bigelow, Kalmanash and Kotchick as applied to claims 21-23 above, and further in view of U.S. Patent

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5,548,108 to Moldskred et al. ("Moldskred"). (*See* 2/2/07 Office Action, pp. 7-8.)

Moldskred does not disclose "a liquid crystal display set to quarter wave retardation," as recited in claim 21. As previously discussed with reference to claim 21, Wu, Bigelow, Kalmanash and Kotchick, either alone or in combination, do not disclose "a liquid crystal display set to quarter wave retardation." Further, Applicants submit that, as for claim 1, the Examiner uses impermissible hindsight to assert that it would have been obvious to one of skill in the art, at the time the invention was made, to combine the teachings of Wu, Bigelow, Kalmanash, Kotchick and Moldskred in this manner, and that such a combination is in fact non-obvious. Therefore, Applicants respectfully submit that the rejection of claims 24-25, which depend from claim 21, should be withdrawn for at least the reasons discussed above.

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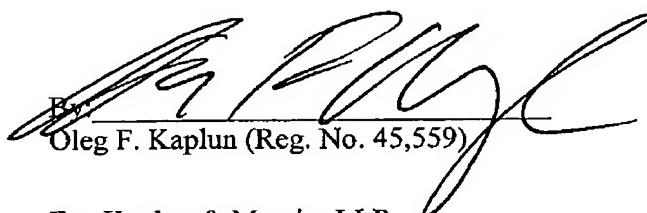
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CONCLUSION

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,


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Dated: May 2, 2007